

2025

Movie Ratings

ROTTEN TOMATO MOVIE RATING CASE STUDY
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Problem & Background

Ratings and reviews for 15,000+ movies reviewed by Rotten Tomatoes. Each record includes film details (title, description, rating, genre, directors, cast, release date, studio, runtime, etc.), as well as featured reviews, "Tomatometer" status, and audience ratings.

The movie industry relies heavily on audience and critic feedback to determine the success of films. Rotten Tomatoes, a leading movie review aggregator, provides ratings and reviews for over 15,000 movies, encompassing critics' **Tomatometer scores** and **audience ratings**. However, there is often a discrepancy between critics' and audience perspectives, leading to polarizing reviews. Studios and filmmakers require a deeper understanding of these ratings to improve content creation, align marketing strategies, and make data-driven decisions.

Solution

The analysis leverages data from Rotten Tomatoes to provide insights into movie ratings, audience preferences, and studio performance. Through data visualization, comparisons, and statistical analysis, the study will:

- Highlight studios or genres producing the most successful films.
- Identify films with the largest gaps between audience and critic ratings.
- Determine trends in movie releases over time and their relationship to ratings.
- Provide actionable recommendations for studios and marketers.

Project Scope

The scope of the study includes:

1. Analysis of movie ratings and reviews for over 15,000 films reviewed by Rotten Tomatoes.
2. Focus on key metrics like Tomatometer scores, audience ratings, genre, studio, and release dates.
3. Insights into discrepancies between audience and critic reviews.
4. Identification of trends in film releases and associated ratings.
5. Development of charts and visualizations to present findings effectively.

Methodology

The study follows these steps:

1. **Data Collection:** Extract movie details and reviews from the Rotten Tomatoes dataset.
2. **Data Cleaning:** Handle missing or inconsistent data, ensuring accurate analysis.
3. **Exploratory Data Analysis (EDA):**
 - Analyze film release patterns by month and year.
 - Study average ratings by genre, studio, and release period.
 - Investigate Tomatometer vs. audience rating discrepancies.
4. **Visualization:** Create visualizations such as bar charts, line graphs, and scatterplots for clear representation.
5. **Statistical Analysis:** Compare average ratings and calculate discrepancies.
6. **Interpretation and Reporting:** Provide actionable insights and recommendations.

Key Performance Indicators (KPIs)

1. **Average Tomatometer Rating by Genre and Studio:** Measures critic reception.

2. **Average Audience Rating by Genre and Studio:** Measures audience approval.
3. **Discrepancy Score:** Absolute difference between Tomatometer and audience ratings.
4. **Film Volume by Month and Year:** Tracks trends in movie releases.
5. **Highest-Rated Studios/Genres:** Studios and genres with top ratings.
6. **Outlier Identification:** Films with extreme differences between critic and audience opinions.

Technical Process

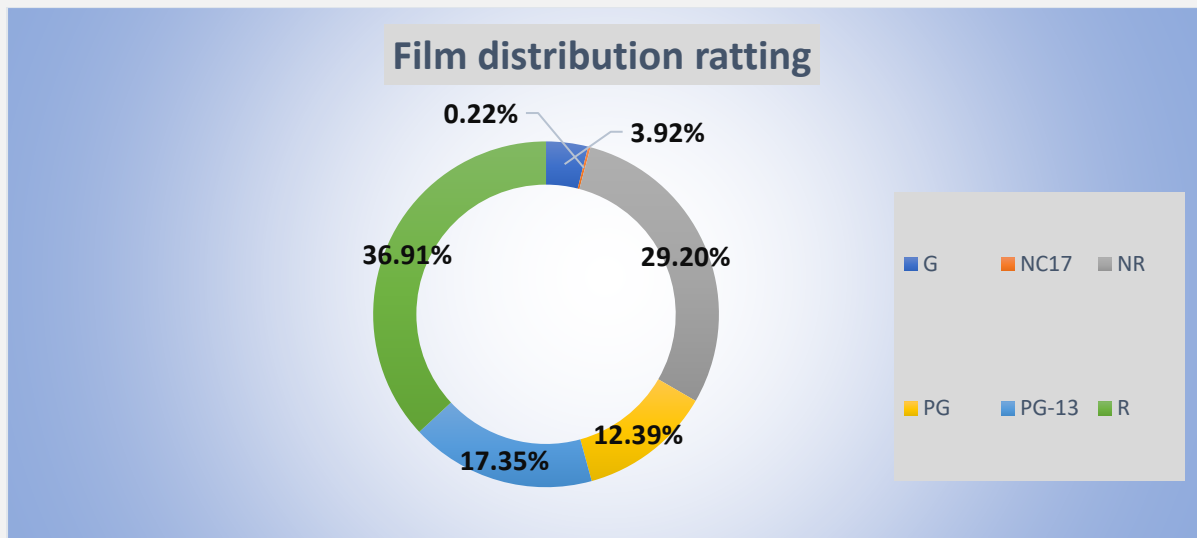
1. **Data Import and Cleaning:**
 - Import the dataset into analysis tools (e.g., Python, Excel, or Power BI).
 - Remove duplicates, handle missing values, and standardize formats.
2. **Feature Engineering:**
 - Extract year and month from release dates.
 - Calculate discrepancy scores between Tomatometer and audience ratings.
3. **Analysis and Visualization:**
 - Use pivot tables, statistical summaries, and visualizations.
 - Compare performance across genres and studios.
4. **Reporting:**
 - Summarize insights with visuals and data storytelling.
 - Provide actionable recommendations for filmmakers and studios.

Business Concepts Used

1. **Consumer Behavior Analysis:** Understanding audience preferences through ratings and trends.
2. **Market Segmentation:**
 - Segregate films by genre, studio, and release period.
 - Identify high-performing niches.
1. **Competitive Analysis:** Compare studios based on average ratings and film volume.
2. **Data-Driven Decision Making:**
 - Highlight areas for improvement in film production.
 - Guide marketing strategies to target audience preferences.
3. **Trend Analysis:** Use historical data to predict future film performance patterns.

Recommended Analysis

1. What does the distribution of films look like by rating? My primary genre? (hint: use the first genre listed)



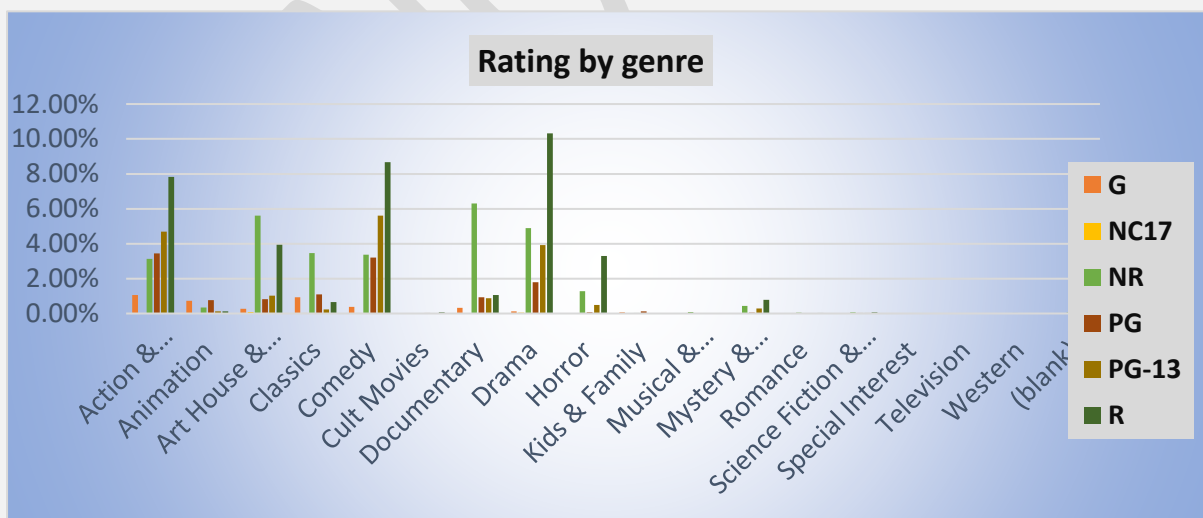
The majority of films (36.11%) have an R rating, targeting adult audiences. NR films make up 29.20%, while PG-13 films account for 17.35% and 12.39% respectively. G films account for 3.92%, and NC-17 films have a negligible rating of 0.22%.

Target Audience:

- The dominance of **R-rated films** shows a strong focus on mature audiences. Producers may want to diversify their content to attract younger audiences (**G or PG-rated films**) to expand their market.
- The significant share of **NR-rated films** suggests that better classification could improve their appeal and distribution.

Market Strategy:

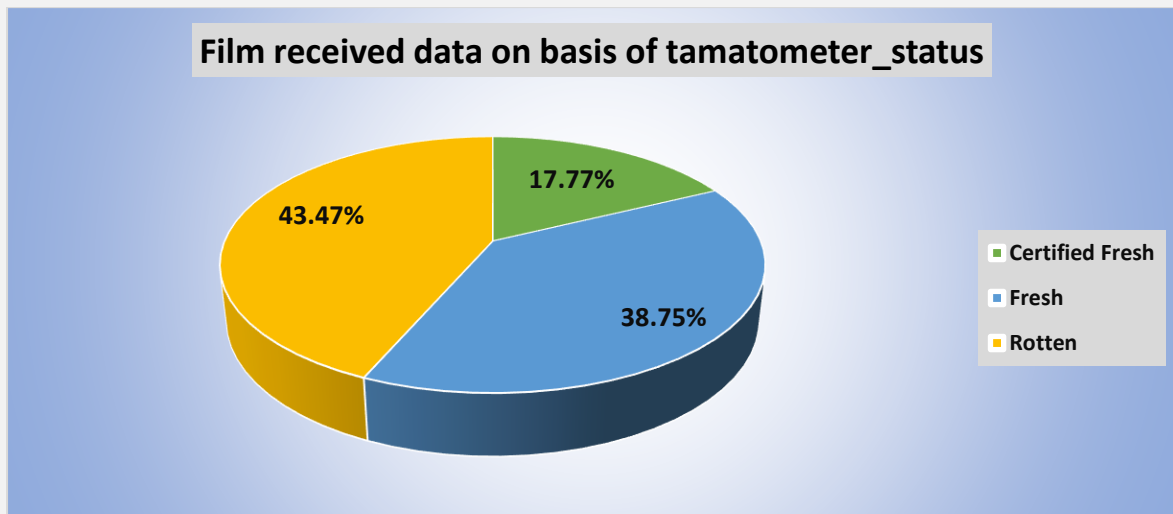
- Expanding family-oriented content (PG-13 or PG-rated films) could tap into the broader family entertainment market.



Primary Genre:

- **"R" ratings dominate** the overall dataset, aligning with adult-focused content production.
- **"NR" ratings are significant**, especially for genres like **Documentary** and **Art House & International**, which might cater to niche audiences or independent productions.
- **Family-friendly genres (G, PG)** have a relatively smaller share, suggesting fewer films targeting younger audiences.

2. What % of films received a Certified Fresh Tomatometer rating? What about Rotten?



1. **Certified Fresh Films:**

- Only 17.77% of films received a Certified Fresh rating, indicating a smaller percentage of films met the highest quality standards as per the Tomatometer.

2. **Fresh Films:**

- A significant portion (38.75%) of films received a Fresh rating, suggesting a moderate level of approval from critics for a large segment of the dataset.

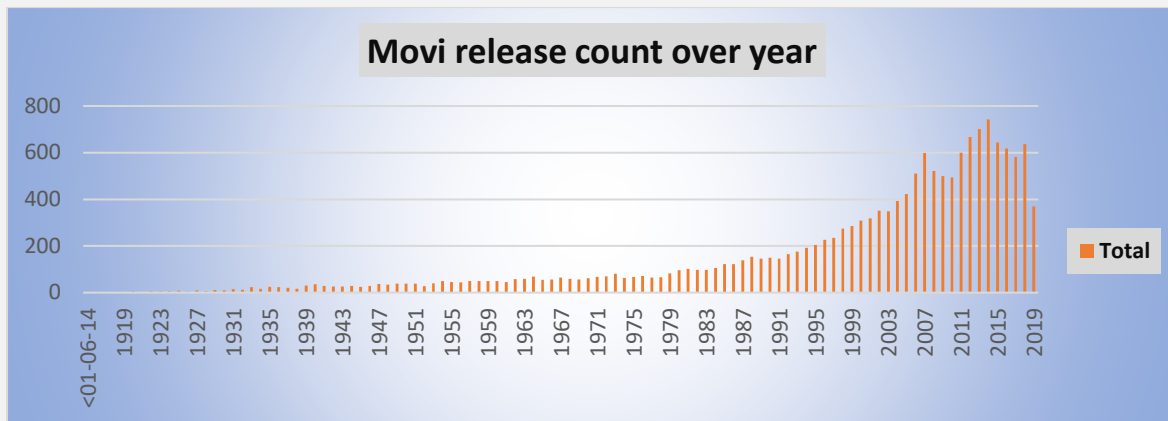
3. **Rotten Films:**

- The largest category (43.47%) of films received a Rotten rating, which reflects that a substantial portion of the films failed to impress critics, leading to negative reviews.

Insight:

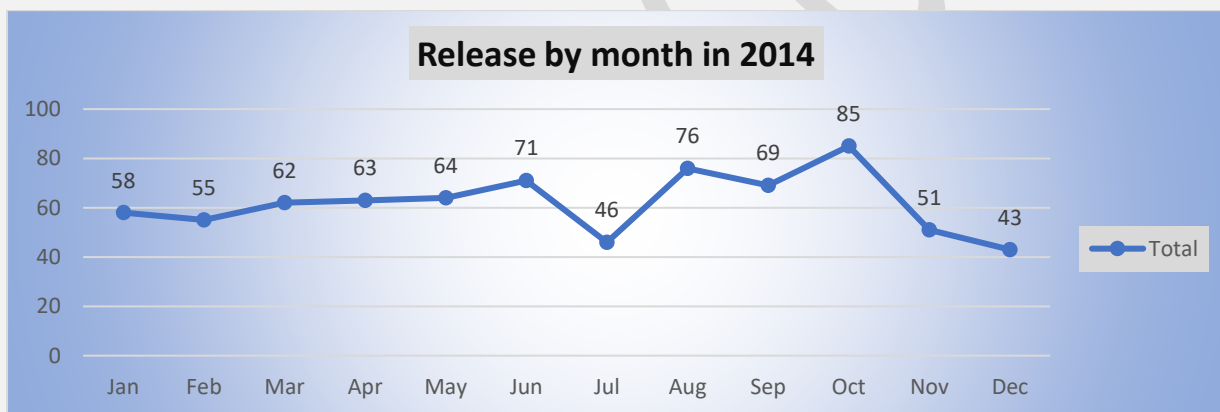
- A. The high percentage of **Rotten** films highlights an area of concern for filmmakers and production houses to improve content quality and appeal.
- B. The low percentage of **Certified Fresh** films suggests a competitive space where only a small fraction achieves critical acclaim.

3. Explore new film releases over time. How has the volume of releases by month trended over time? What year/month were the newest films released?



Trend of Film Releases Over Time:

- The data shows a steady growth in the number of films released over the years, with a significant surge starting from the 1980s. This indicates that the film industry has expanded in terms of production over time.
- The highest volume of film releases occurred in 2014, with 743 films, marking it as the peak year in the dataset.



Volume of Releases by Month:

- Across the months, **October** saw the highest number of film releases with **85 films**, followed by **August (76)** and **June (71)**. These months are likely targeted for major releases due to strategic considerations such as holidays or award season preparation.
- The lowest number of releases occurred in **December (43 films)** and **July (46 films)**, possibly due to competition with major blockbusters or less favorable timing for audience engagement.

Notable Patterns in Annual and Monthly Releases:

- Growth from the 2000s Onward:** The number of releases started climbing significantly in the early 2000s, surpassing 300 releases per year and peaking in 2014.
- Post-2014 Decline:** There was a drop in the number of releases after 2014, with a noticeable dip in 2019, indicating possible industry-wide shifts such as changes in production strategies, market saturation, or emerging challenges like digital disruption.

Newest Films Released:

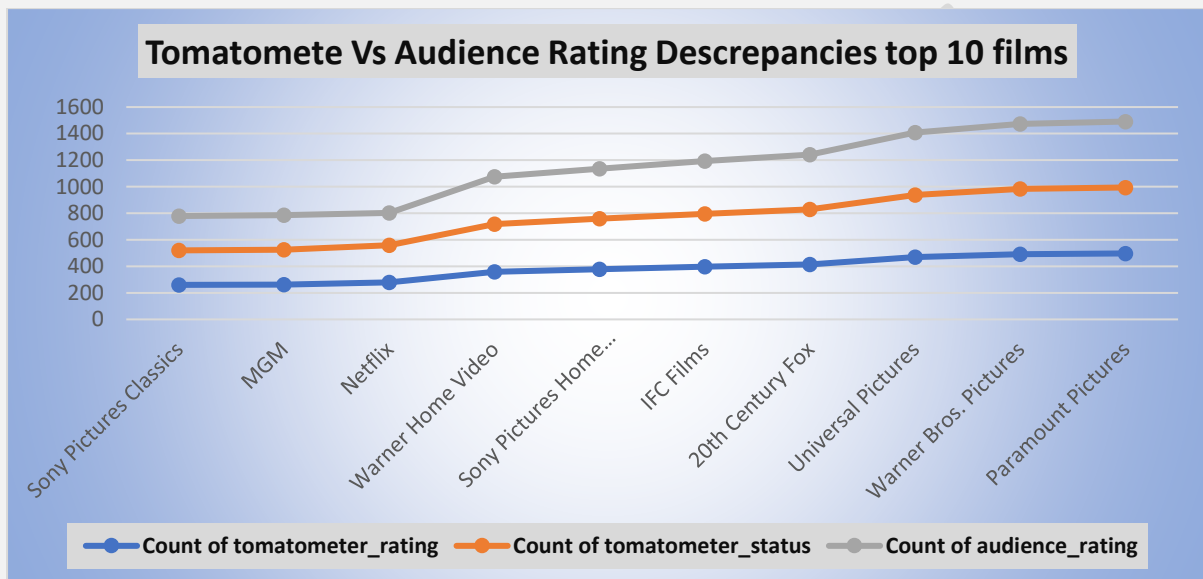
- The newest films were released in 2014, marking it as the most prolific year in the dataset

Industry Insights:

- The increase in releases over the years reflects the expansion of the film industry, the rise of independent productions, and the growing global audience.

The film industry experienced significant growth in releases over time, peaking in 2014 with 743 films. October emerges as the top month for film releases, suggesting it is a prime time for distributors to target audiences. However, the decline in releases post-2014 highlights potential industry changes or external factors impacting production.

4. Compare average Tomatometer ratings by Studio. Which studios produce the highest-rated films, on average? The lowest?



The analysis focuses on understanding which studios produce the highest-rated films, on average, and which produce the lowest.

Studios with High Ratings:

- Paramount Pictures, Warner Bros. Pictures, and Universal Pictures show consistently high Audience Ratings alongside Tomatometer Ratings.
- These studios appear to produce films that are well-received both by critics (Tomatometer) and audiences, indicating strong alignment in quality and appeal.

1. Studios with Lower Ratings:

- Sony Pictures Classics and MGM have relatively lower Tomatometer Ratings and Audience Ratings compared to other top studios.
- This suggests that these studios may have discrepancies in producing films that resonate with both critics and audiences.

2. Discrepancies Between Ratings:

- Some studios, such as Netflix, show a noticeable gap between Tomatometer Ratings and Audience Ratings, indicating potential differences in how critics and audiences perceive their films.

3. Consistency Across Ratings:

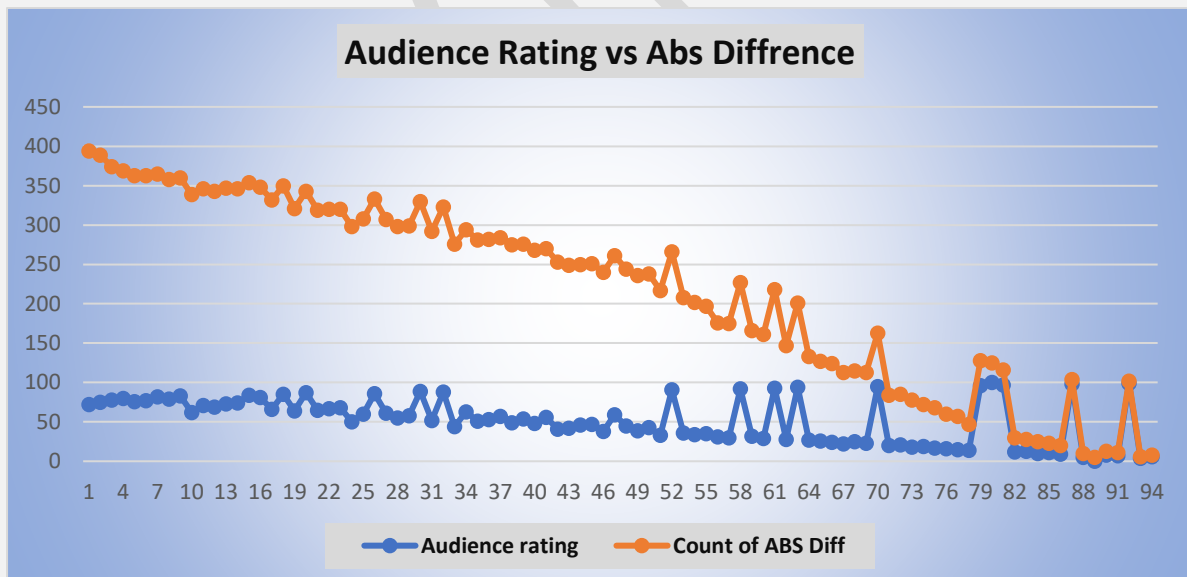
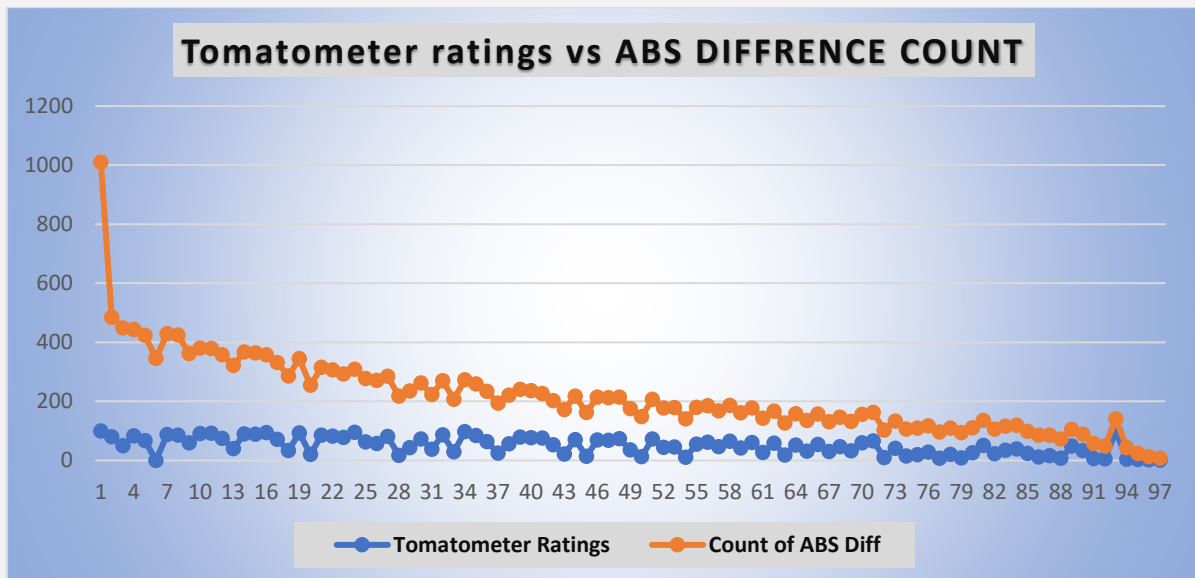
- Studios like 20th Century Fox and IFC Films show a closer alignment between Tomatometer Ratings and Audience Ratings, suggesting consistent performance across different perspectives.

Overall Insights

1. Studios like **Paramount Pictures** and **Warner Bros. Pictures** excel in producing critically acclaimed films with broad audience appeal.
2. Studios with larger gaps between **Tomatometer** and **Audience Ratings**, such as **Netflix**, might need to assess the reasons for discrepancies to better align with audience preferences.

This analysis highlights the performance trends of studios in producing high-quality films and identifies areas where certain studios can improve.

5. Compare the Tomatometer ratings against audience ratings. Which films showed the largest discrepancies between audiences and critics?



The charts analyze the discrepancies between **Tomatometer Ratings** (critics) and **Audience Ratings** for various films, focusing on the absolute differences to identify where critics and audiences differ the most.

1. Tomatometer Ratings vs. Absolute Differences:

- The left chart shows that films with higher **absolute differences** (orange line) have relatively stable but lower **Tomatometer Ratings** (blue line).
- This indicates that some films received moderate or low critic scores but experienced a significant variance compared to audience perceptions.

2. Audience Ratings vs. Absolute Differences:

- The right chart demonstrates that films with higher absolute differences also tend to have lower **Audience Ratings** (blue line).
- Audience scores, while higher than critic scores in some instances, reflect dissatisfaction or polarized reactions.

1. Largest Discrepancies:

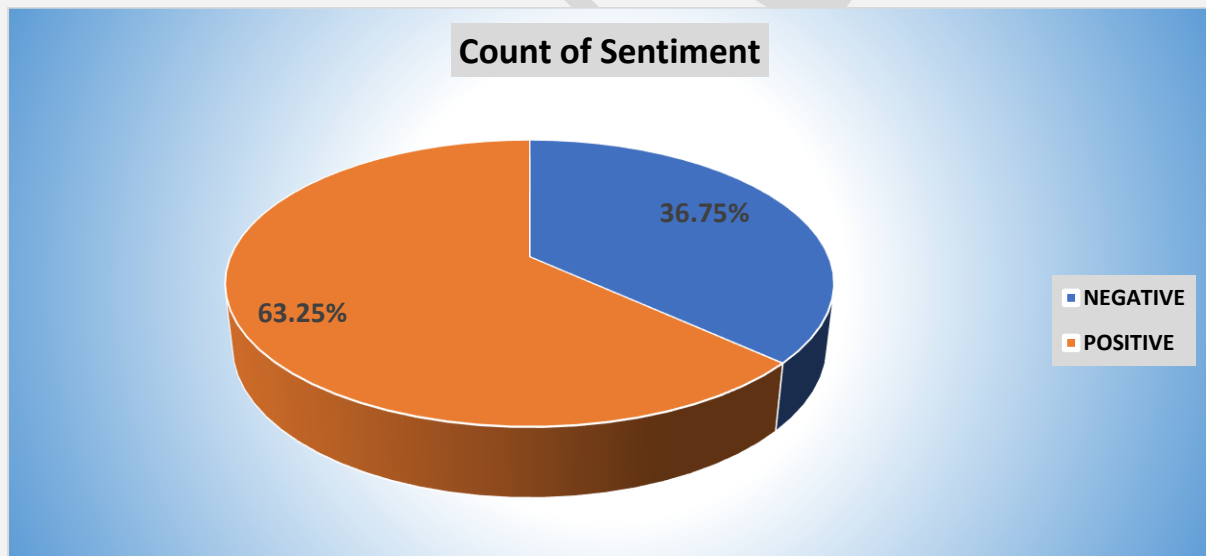
- Films with the **highest absolute differences** (peaks in orange lines on both charts) show the greatest divergence between critic and audience opinions.
- These could be films where either the critics were more stringent, or the audience had a vastly different emotional or cultural connection.

Insights:

1. **High Discrepancy Films:** These are likely polarizing films that divide opinion between audiences and critics. Studios can use this insight to better align content with audience preferences or manage expectations.
2. **Smaller Differences:** Films with smaller discrepancies are generally more universally appealing or perceived similarly by both audiences and critics.

This analysis is valuable for identifying films with strong public disagreement and understanding how critics' evaluations align or diverge from general audience reception.

6. Explore the critic's consensus rating: what language is used most often?



From the analysis of the critic's consensus ratings, the following insights are observed:

1. Overall Positive Sentiment Dominates:

- **63.25%** of the critics' consensus ratings are **positive**, indicating that the majority of films receive favorable reviews from critics.
- This suggests a general inclination of critics to provide constructive or supportive feedback for movies, likely reflecting the quality or appeal of the films reviewed.

2. Negative Sentiments Exist but Are Fewer:

- **36.75%** of the ratings are **negative**, highlighting that a smaller, but significant proportion of movies fail to meet critics' expectations.
- This could reflect movies with poor execution, storytelling, or production quality.

3. Implications for Studios and Filmmakers:

- Positive ratings dominate, indicating that filmmakers and studios often succeed in producing content that resonates with critics.
- For movies falling into the **negative category**, further analysis of specific factors (e.g., genre, director, studio) can help identify trends or common pitfalls contributing to the lower scores.

4. Key Takeaway:

- Studios should aim to focus on attributes that drive positive reviews, such as compelling storytelling, strong performances, and high production values, as the data indicates a larger potential to achieve positive reception. However, understanding the causes of negative ratings is also crucial to avoid such outcomes.

This analysis reflects a healthy level of critical approval for films, but also a competitive space where studios must consistently strive for excellence to achieve favorable ratings.

Conclusion:

This case study highlights the intricate dynamics of the film industry, emphasizing the importance of understanding genre, ratings, audience preferences, and studio performance. With data-driven insights, studios and filmmakers can make informed decisions to maximize critical acclaim, audience satisfaction, and financial success. The findings underscore the role of consistent innovation, quality storytelling, and strategic release timing in achieving sustainable success in the competitive film market.

Project owner

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